

## CLAIMS

1. An antireflection film comprising a transparent support, at least one hard coat layer and a low refractive index layer, in this order, wherein the hard coat layer includes a polymerized product of (A) an ethylene oxide or propylene oxide adduct of a polyfunctional acrylate monomer and (B) a polyfunctional acrylate monomer having no oxide adduct.

2. The antireflection film as described in claim 1, wherein the polyfunctional acrylate monomer (A) has ethylene oxide or propylene oxide in a molar number of 1 to 3.

3. The antireflection film as described in claim 1 or 2, wherein the polyfunctional acrylate monomer (A) is an ethylene oxide adduct of trimethylolpropane tri(meth)acrylate.

4. The antireflection film as described in any one of claims 1 to 3, wherein the polyfunctional acrylate monomer (B) is a mixture of dipentaerythritol hexa(meth)acrylate and dipentaerythritol penta(meth)acrylate.

5. The antireflection film as described in any one of claims 1 to 4, wherein the hard coat layer includes a binder and matt particles having an average particle diameter of from

1.0 to 10.0  $\mu\text{m}$ , and the binder has a refractive index of from 1.48 to 2.00.

6. The antireflection film as described in any one of claims 1 to 5, wherein the hard coat layer includes an inorganic filler containing at least one oxide selected from oxides of zirconium, titanium, aluminum, indium, zinc, tin, antimony and silicon.

7. The antireflection film as described in any one of claims 1 to 6, wherein the low refractive index layer includes an inorganic filler containing silica or magnesium fluoride.

8. The antireflection film as described in claim 7, wherein the inorganic filler contained in the low refractive index layer has an average particle diameter of from 0.001 to 0.2  $\mu\text{m}$ .

9. The antireflection film as described in any one of claims 1 to 8, wherein each layer of the antireflection film is a cured film cured by irradiation of radiation or heat continuously after coating.

10. A process for producing an antireflection film, wherein the antireflection film is the antireflection film as described in any one of claims 1 to 9, and

the process comprises: continuously winding off a transparent support in a roll form; and coating by a microgravure coating method at least one of a hard coat layer and a low refractive index layer on one surface of the transparent support thus wound off.

11. A polarizing plate comprising a polarizing film and two protective films, wherein at least one of the two protective films is the antireflection film as described in any one of claims 1 to 9.

12. A display device comprising the antireflection film as described in any one of claims 1 to 9, wherein the low refractive index layer of the antireflection film is the outermost layer of a display.